UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,401	12/19/2001	Celal Albayrak	0081.01	2841

21968 7590 12/30/2003

NEKTAR THERAPEUTICS
150 INDUSTRIAL ROAD
SAN CARLOS, CA 94070

EXAMINER	
DI NOLA BARON, LILIANA	

ART UNIT	PAPER NUMBER
1615	

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,401	ALBAYRAK, CELAL	
	Examiner	Art Unit	
	Liliana Di Nola-Baron	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 42 is objected to because of the following informalities: the claim is misnumbered as 41. Appropriate correction is required.

Election/Restrictions

2. Applicant's election with traverse of the species polyester for the polymer, methyl formate for the partially water-miscible solvent and ethanol for the water miscible co-solvent is acknowledged. The traversal is on the ground(s) that the search for each of the patentably distinct species would not be an undue burden for the examiner. This argument has been found persuasive. Accordingly, the election requirement is withdrawn.

Priority

3. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification of in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)).

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-15, 18-21, 24 and 29-42 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 and 8 of U.S. Patent No. 6,294,204. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s), because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). (See In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985)). Although the conflicting claims are not identical, they are not patentably distinct from each other because both the patent and the instant application are directed to a process for the production of polymeric microparticles. Instant claims 1-15, 18-21, 24 and 29-42 differ from claims 1-6 and 8 in the patent in that the instant claims are directed to a process comprising a non-water soluble active agent, whereas the claims in the patent are drawn to a process comprising a water-soluble active agent. However, Example 1 in the instant application teaches that an aqueous solution of Tris buffer containing the active

agent (Budenoside) is dispersed in the polymer solution, similar to Example 1 in the patent, wherein an aqueous solution of Tris buffer containing the active agent (human albumin) is dispersed in the polymer solution. Therefore, in both the patent and instant application the active agent is dissolved in an aqueous buffer solution and added to the polymer solution to form a drug phase or drug dispersion. With regard to the limitation in instant claim 1, that the surfactant is in an amount sufficient to produce a suspension of microparticles without requiring removal of the solvent, instant claims 2 and 3 comprise the step of removing the solvent, as taught in the examples in the patent (See Examples 1, 9, 10 and 11). In the examples disclosed by the patent, a suspension of microparticles is obtained, as claimed in the instant claims. With regard to the solvent solubility claimed in instant claims 4-6, claims 3 and 4 in the patent recite the same solvents recited in instant claim 36, thus the water solubility is inherent. With respect to the limitation in claim 1 in the patent, that the polymer/active agent dispersion is less than 50% and the surfactant solution is less than 60%, instant claim 7 shares the same endpoint recited in the patented claim. Regarding the limitation in instant claim 8, that the volume fraction of the surfactant phase is 0.65-0.75, Applicant has not established the criticality of said limitation, since the patent teaches that a suspension of microparticles is formed upon addition of the surfactant phase (See Examples). With regard to instant claims 9-11, claim 4 in the patent contemplates mixtures of solvents comprising ethanol. Regarding instant claims 12-15, 18-21, 24 and 32, Example 1 in the patent teaches that a buffer comprising a drug is added to the mixture to form microcapsules. With respect to claims 29-31, the patent teaches that cryoprotectors, such as sugar alcohols, may be added in the process of the invention (See col. 4, lines 12-14). The polymers claimed in instant claims 33-35 are disclosed in claim 2 in the patent. The solvents and surfactant

claimed in instant claims 36-38 are recited in claims 3-5 in the patent. The limitations of claims 39 and 40 are inherent to the process, since the patent and the instant application are directed to the same polymers and aqueous phase. With regard to the ratio limitation in instant claim 41, Applicant has not established the criticality of said limitation, since the patent teaches that a suspension of microparticles is formed upon addition of the surfactant phase (See Examples). The microparticles claimed in instant claims 42 are produced in the examples disclosed by the patent.

The instant claims 1-15, 18-21, 24 and 29-42 cannot be considered patentably distinct over claims 1-6 and 8 in the patent when there are specifically recited embodiments in the patent that would anticipate the instant claims.

6. Claims 16, 17, 22, 23, 25 and 26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 and 8 of U.S. Patent No. 6,294,204 in view of Tomlinson et al. (U.S. Patent 6,211, 250).

The teachings of U.S. Patent 6,294,204 have been summarized above. The patent is silent with respect to producing compositions comprising microspheres and microsponges, as claimed in instant claims 16, 17, 22, 23, 25 and 26.

Tomlinson et al. teaches that microparticles, microspheres and microsponges are considered equivalent in the art (See col. 4, lines 49-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process disclosed in U.S. Patent 6, 294,204 to produce microspheres and microsponges, to improve medical applications and drug delivery. Because of the teachings of Tomlinson et al., that microparticles, microspheres and microsponges are equivalent, one of ordinary skill in the art would have a reasonable expectation that the process claimed in instant claims 16, 17, 22, 23, 25 and 26 would be successful. Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

7. Claims 27 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 and 8 of U.S. Patent No. 6,294,204 in view of Gordon (U.S. Patent 6,001,336).

The teachings of U.S. Patent 6,294,204 have been summarized above. Instant claims 27 and 28 differ from claim 1 in the patent in that instant claims 27 and 28 are directed to a suspension, whereas claim 1 in the patent is directed to a solution.

Gordon teaches that a solution is formed when a hydrophilic component is mixed in water, whereas a hydrophobic component is suspended in the solution to form a suspension(See col. 4, lines 15-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process disclosed in U.S. Patent 6, 294,204, by adding the water-insoluble active agent in a suspension, rather than in a solution, as recited in the patent, because of the water-insolubility of the drug. Because of the teachings of Gordon, that suspensions, rather than solutions, are formed when a hydrophobic compound is mixed in water, one of ordinary skill in the art would have a reasonable expectation that the process claimed in instant claims 27 and 28 would be successful. Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

8. Claims 1-15, 18-21, 24 and 29-42 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 7 and 11-14 of U.S. Patent No. 6,572,894. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s), because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). (See In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985)). Although the conflicting claims are not identical, they are not patentably distinct from each other because both the patent and the instant application are directed to a process for the production of polymeric microparticles. Instant claims 1-15, 18-21, 24 and 29-42 differ from claims 1-4, 7 and 11-14 in the patent in that the instant claims are directed to a process comprising a non-water soluble active agent, whereas the

claims in the patent are drawn to a process comprising a water-soluble active agent. However, Example 1 in the instant application teaches that an aqueous solution of Tris buffer containing the active agent (Budenoside) is dispersed in the polymer solution, similar to Example 1 in the patent, wherein an aqueous solution of Tris buffer containing the active agent (human albumin) is dispersed in the polymer solution. Therefore, in both the patent and instant application the active agent is dissolved in an aqueous buffer solution and added to the polymer solution to form a drug phase or drug dispersion. With regard to the limitation in instant claim 1, that the surfactant is in an amount sufficient to produce a suspension of microparticles without requiring removal of the solvent, instant claims 2 and 3 comprise the step of removing the solvent, as taught in the examples in the patent (See Examples 1, 9, 10 and 11). In the examples disclosed by the patent, a suspension of microparticles is obtained, as claimed in the instant claims. With regard to the solvent solubility claimed in instant claims 4-6, claims 2 and 3 in the patent recite the same solvents recited in instant claim 36, thus the water solubility is inherent. With respect to the limitation in claim 1 in the patent, that the surfactant solution is in an amount less than 60%, instant claim 7 shares the same endpoint recited in the patented claim. Regarding the limitation in instant claim 8, that the volume fraction of the surfactant phase is 0.65-0.75, Applicant has not established the criticality of said limitation, since the patent teaches that a suspension of microparticles is formed upon addition of the surfactant phase (See Examples). With regard to instant claims 9-11, claim 2 in the patent contemplates mixtures of solvents comprising ethanol. Regarding instant claims 12-15, 18-21, 24 and 32, claims 13 and 14 in the patent recite a process comprising providing the drug in a buffer, and the examples disclosed in the patent teach that microcapsules are obtained from the process of the invention. With respect

to claims 29-31, the patent teaches cryoprotectors, such as sugar alcohols, may be added (See col. 4, lines 21-23) and claim 11 in the patent recites a process comprising adding a cryoprotector. The polymers claimed in instant claims 33-35 are disclosed in claim 4 in the patent. The solvents and surfactant claimed in instant claims 36-38 are recited in claims 1-3 in the patent. The limitations of claims 39 and 40 are inherent to the process, since the patent and the instant application are directed to the same polymers and aqueous phase. With regard to the ratio limitation in instant claim 41, Applicant has not established the criticality of said limitation, since the patent teaches that a suspension of microparticles is formed upon addition of the surfactant phase (See Examples). The microparticles claimed in instant claims 42 are produced in the examples disclosed by the patent.

The instant claims 1-15, 18-21, 24 and 29-42 cannot be considered patentably distinct over claims 1-4, 7 and 11-14 in the patent when there are specifically recited embodiments in the patent that would anticipate the instant claims.

9. Claims 16, 17, 22, 23, 25 and 26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 7 and 11-14 of U.S. Patent No. 6,572,894 in view of Tomlinson et al. (U.S. Patent 6,211, 250).

The teachings of U.S. Patent 6,572,894 have been summarized above. The patent is silent with respect to producing compositions comprising microspheres and microsponges, as claimed in instant claims 16, 17, 22, 23, 25 and 26.

Tomlinson et al. teaches that microparticles, microspheres and microsponges are considered equivalent in the art (See col. 4, lines 49-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process disclosed in U.S. Patent 6, 572,894 to produce microspheres and microsponges, to improve medical applications and drug delivery. Because of the teachings of Tomlinson et al., that microparticles, microspheres and microsponges are equivalent, one of ordinary skill in the art would have a reasonable expectation that the process claimed in instant claims 16, 17, 22, 23, 25 and 26 would be successful. Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

10. Claims 27 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 7 and 11-14 of U.S. Patent No. 6,572,894 in view of Gordon (U.S. Patent 6,001,336).

The teachings of U.S. Patent 6,572,894 have been summarized above. Instant claims 27 and 28 differ from claim 1 in the patent in that instant claims 27 and 28 are directed to a suspension, whereas claim 1 in the patent is directed to a solution.

Gordon teaches that a solution is formed when a hydrophilic component is mixed in water, whereas a hydrophobic component is suspended in the solution to form a suspension (See col. 4, lines 15-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process disclosed in U.S. Patent 6, 572,894, by adding the water-insoluble active agent in a suspension, rather than in a solution, as recited in the patent, because of the water-insolubility of the drug. Because of the teachings of Gordon, that suspensions, rather than solutions, are formed when a hydrophobic compound is mixed in water, one of ordinary skill in the art would have a reasonable expectation that the process claimed in instant claims 27 and 28 would be successful. Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liliana Di Nola-Baron whose telephone number is 703-308-8318. The examiner can normally be reached on Monday through Thursday, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone number for the organization where this application or proceeding is assigned is 703-305-3592.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1234/ 1235.

December 18, 2003

THURMAN K. PAGE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600